

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 2 and 21-34 are presently pending in this application. Claims 2 and 21-23 are amended, and Claims 24-34 are added by the present amendment. Support for amended Claim 2 can be found, for example, at page 10, line 16 to page 11, line 13, of the specification; amended Claims 21-23 and new Claims 24-31 at page 19, line 3, to page 21, line 7, of the specification and Figures 2A, 2B and 2C; and new Claims 32-34 similar to original Claim 2. Hence, no new matter is believed to be added.

In the outstanding Office Action, Claims 21-23 were rejected under 35 U.S.C. § 112, second paragraph; Claim 2 was rejected under 35 U.S.C. § 102(e) as anticipated by Eui-Yeol (U.S. Patent 6,035,871); and Claims 21-23 were rejected under 35 U.S.C. § 102(e) as anticipated by Eui-Yeol.

In regard to the rejection of Claims 21-23 under 35 U.S.C. § 112, second paragraph, Applicants submit that the amendments to Claims 21 and 23 herein overcome this rejection, and respectfully request its withdrawal. It is believed that all pending claims are definite and no further rejection on that basis is anticipated.

Before addressing the rejection of Claim 2, a brief summary of Claim 2 as currently amended and its background is believed to be helpful. Referring to the specification at page 10, line 24 to page 11, line 13, Applicants note that one of the problems that arises when stripping a resist (e.g. a photoresist) after a formation of a pattern (e.g. after exposing, developing and etching the resist) on a substrate is that pieces of the resist remain (i.e. resist pieces) on the substrate. Another problem arises in that once-stripped pieces of the resist (i.e. resist pieces) adhere back onto the substrate. Claim 2 as currently amended is directed to a

substrate treatment process, for example, for cleaning such resist pieces on a substrate, and includes the following features:

“... treating a substrate having resist pieces adhered thereto with ozone-hydrogen water prepared by dissolving an ozone-containing gas and a hydrogen-containing gas in ultrapure water, or ozone hydrogen water prepared by mixing ozone water prepared by dissolving an ozone-containing gas in ultrapure water and hydrogen water prepared by dissolving a hydrogen-containing gas in ultrapure water, or treating said substrate with said ozone water and said hydrogen water at the same time” (emphasis added in bold).

That is, a substrate is treated with “ozone-hydrogen water,” or “ozone hydrogen water,” or “ozone water” and “hydrogen water” at the same time, for example, **after** stripping of the resist to clean resist pieces adhered on the substrate.

On the contrary, Eui-Yeol is not concerned with cleaning resist pieces adhered on the substrate, and does not clean such resist pieces on the substrate. In Eui-Yeol, a substrate is cleaned with ozonized water and hydrogenated water **prior to** performing a dry treatment (e.g. film deposition and etching) on a substrate (see column 1, lines 26-32, and column 3, lines 54-57). More specifically, as shown in Figure 3 of Eui-Yeol, the substrate is transferred through a cleaning room 25, in which the substrate is cleaned with ozonized water and hydrogenated water, a robot chamber 15, a standby room 9b, and a transfer room 6 before arriving at one of dry treatment chambers 7a-e for the dry treatment. Then, after the dry treatment, the substrate is transferred back to one of loading/unloading chambers 8a-d through the transfer room 6, a standby room 9a, the robot chamber 15 and a passage room 14 (see column 4, line 65 to column 5, line 5, and Figure 4). Thus, after the dry treatment, the substrate **does not** go through the cleaning room 25. As such, the substrate in the Eui-Yeol process is treated with the ozonized water and hydrogenated water **before** a dry treatment of

a deposition, etching and **stripping** of films such as resist, and is **not** treated with the ozonized water and hydrogenated water after the dry treatment.

It is therefore respectfully submitted that Eui-Yeol fails to disclose or suggest “... treating a **substrate having resist pieces adhered thereto** with ozone-hydrogen water prepared by dissolving an ozone-containing gas and a hydrogen-containing gas in ultrapure water, or ozone hydrogen water prepared by mixing ozone water prepared by dissolving an ozone-containing gas in ultrapure water and hydrogen water prepared by dissolving a hydrogen-containing gas in ultrapure water, or treating said substrate with said ozone water and said hydrogen water at the same time” (emphasis added in bold) as recited in amended Claim 2. Accordingly, Claim 2 patentably distinguishes from Eui-Yeol.

Furthermore, since Claim 32 recites “[a] substrate treatment process comprising treating a substrate having resist pieces adhered thereto with ozone water and hydrogen water at the same time or with ozone-hydrogen water,” substantially the same arguments set forth above also apply to Claim 32. Hence, Claim 32 is also distinguishable from Eui-Yeol.

Turning to the rejection of Claims 21-23, a brief summary of Claim 21 as currently amended is believed to be in order. Claim 21 as currently amended is directed to a substrate treatment apparatus that includes, among other things, the following features:

“... a nozzle unit positioned in an upper portion of said treatment vessel and configured to eject at least one liquid over at least a portion of said substrate covering a length substantially equal to or greater than a diameter of said substrate and a width smaller than the diameter of said substrate as said substrate is held on said substrate holder, said nozzle unit comprising a plurality of cells configured to be fed with the at least one liquid”

By providing such a nozzle unit, the liquid is ejected more evenly to the substrate.¹ As discussed above, Eui-Yeol is directed to a cleaning apparatus. Nevertheless, Eui-Yeol does not teach or suggest the nozzle unit as recited in amended Claim 21. Instead, referring to Fig. 6 of Eui-Yeol, the Eui-Yeol nozzle 24 has only a hydrogenated water path 145 formed therein, and this hydrogenated water path 145 is simply communicated with ejection holes 148, thus allowing the hydrogenated water to be ejected.² Thus, Applicants respectfully submit that the structure recited in Claim 21 is clearly distinguishable from Eui-Yeol and that amended Claim 21 is not anticipated by Eui-Yeol.

Applicants also wish to point out that Eui-Yeol is silent with respect to a specific shape and size of the nozzle 23. That is, Eui-Yeol does not appear to state that the drawing of Figure 2 is to scale, and is silent as to dimensions of the drawing of Figure 2. Therefore, one cannot reasonably know a specific structure and size of the nozzle 23. It is thus respectfully submitted that Eui-Yeol does not disclose or suggest a structure having a length larger than a diameter of a substrate and a width smaller than the diameter of the substrate,³ in particular, the subject matter recited in Claim 26.

For the foregoing reasons stated above, Claims 2, 21 and 32 are believed to be allowable. Furthermore, since Claims 22-31, 33 and 34 ultimately depend from either Claim 21 or 32, these dependent claims are believed to be allowable as well.

¹ Specification, page 19, line 16, to page 20, line 5.

² Eui-Yeol, column 5, lines 18-24.

³ M.P.E.P. § 2125 states: “[W]hen the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value,” and that “... it is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.”

In light of the above discussion and amendment, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Akihiro Yamazaki
Registration No. 46,155

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

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